From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: 4CX250B@miavx1.acs.muohio.edu
Subject: Re: "engineer-bashing"
Message-ID: <v03007800af018513cc15@[134.53.5.143]>

>
>   ...And the parenthetical comment above leads me to the topic of
>"engineer-bashing."
>
>   As for higher math, reference books, etc., you don't need much of
>either to be a tech but it sure helps. For Actual Electronic Engineering,
>those things are often more useful than a soldering iron. The books don't
>have all the answers but they sure do provide a good *starting* point.
>And mathematics is the "power tool" of electronics work--you can do a lot
>of work with a hand saw but the right *power* saw makes it a lot easier!
>The extent to which each of us approaches the hobby as tech or engineer
>depends largely on inclination and background, and is a matter of personal
>preference; it's not worth getting all het up over.
>
>   73,
>   --Bobbi

****

As a college student in the early sixties in New Jersey, I used to talk on ten meter AM with a local ham, Dalton, who ran an engineering division at the RCA Research Center, up the street from campus. Dalton used to give me and my classmates lots of grief about our education, with its focus on differential equations, complex variables, and Maxwell's equations.

"The trouble with you darn college kids," he would say, is that "you know all this airy-fairy theory about poles and zeros and networks, but you can't DO anything with it."

"The kind of engineers we want at RCA," I recall him saying," is the kind who can solder a wire and who knows the difference between triodes and pentodes. College leaders in this country need to get their heads screwed on straight."

I've often wondered what happened to my buddy, Dalton. I do know what happened to the RCA Research Center. It lost its competitive edge and a few years later permanently closed its gates. My classmates went off to have fine careers at places like H.P., Tektronix, and Intel, their heads stuffed full of matrices and Fourier transforms.

And we all know what happened to triodes and pentodes.

Here's my point, from the perspective of a college leader who struggles daily to "keep his head screwed on straight." In our hobby, we seek not only to preserve and celebrate the great technical achievements in radio communication, but also the folklore and knowlege of this earlier era.

But as much as we love our hobby, we should never lose sight of the fact that our gaze is turned backward, toward the past. The professional engineers and scientists in our group don't have the luxury of looking to the rear. The gate to the future requires an understanding of abstract, deeply complex ideas, and these folks have bought their admissions ticket through this gate with years of hard work (and often their life savings, as well). I think we should cut them some slack if they don't always know the best way to lace up a wiring harness. Heck, as Bobbi says, "it's not worth getting all het up over."

Jim W8ZR

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Glenn Finerman <GFINER@nms.com>
Subject: 75A-3 major project!!
Message-ID: <s2db75ea.015@nms.com>

Hello Firebottle fans!. I've finally moved in to the new QTH, finished the Shack construction, test bench, etc... decided to pick up the project I put aside months ago which was restoring a Collins 75A-3.
The receiver looks great on the outside, but somewhere along the line a "substance" was spilled all over the insides of this otherwise nice looking radio. This substance is blackish / greyish in color and seemed to stain / coat almost everything..YECH!!.., Seems like the lid was open and something exploded above it and dripped in. I'm using something called "Super Cleaner" by Castrol in a pump spray bottle and it's amazing!.. The stuff is coming off with no problem (after trying the soap/water, iso alcohol method with no success) Fortunately none of the slime made it to the bottom chassis which is very clean.
If I hadn't heard the receiver work before I bought it I probably would have passed on buying it based on the looks of the top chassis, but now it's no turning back!....
Once I finish the clean up it's on to replacing all the caps and most of the resistors.....My question to you experts out there is, do I really need to open up all the IF cans and replace the caps that are part of the assemblies? That seems like a REAL SUPER PAIN IN THE BUTT!!
drilling out the rivets, etc...
What do you folks think on that???

Thanks....

73.........Glenn N2BJG   gfiner@nms.com

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>
Subject: Re: 75A-3 major project!!
Message-ID: <199701141735.LAA01335@lesol1.dseg.ti.com>

At 11:09 AM 1/14/97 -0600, Glenn Finerman wrote:

>...My question to you <expletive deleted!> out there is, do I really need to open up all the IF cans and replace the caps that are part of the assemblies?

No! Do some troubleshooting and replace only what's defective, which I'll bet is not much. I fixed up a KWM-2A a few months ago and seem to recall finding only a couple of defective caps and perhaps one resistor. The major problem was needing to disassemble and clean all the variable caps. Also, relays and switch contacts were incredibly filthy. I spent a lot of time cleaning contacts before the radio displayed signs of life.

Hope this helps.

Regards,
Bill Sorsby, N5BU

****
bill.sorsby@dlep1.itg.ti.com
Views expressed herein are no one's fault but mine.
****

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: okasb@rex.mtv.gtegsc.com (Bob Okas)
Subject: Re: 75A-3 major project!!
Message-ID: <9701141741.AA08595@rex.mtv.gtegsc.com>

Glen,

you wrote:
> The receiver looks great on the outside, but somewhere along the line a "substance" was spilled all over the insides of this otherwise nice looking radio. This substance is blackish / greyish in color and seemed to stain / coat almost everything..YECH!!..,

We "X-Files" fans know that El Chupacabra is responsible for this!!

As far as opening up the IF cans to replace the caps, I can't speak
for Collins, but not all Hammarlunds had paper caps in the cans,
which is probably where this notion came from. I'm sure Collins
used qualty components in which there are most likely ceramic caps
and these almost never fail.

Bob - W3CD

Subject: Re: 75A-3 major project!!

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Cal Eustaquio N6KYR <ceustaqu@dot.w6bhz.calpoly.edu>
Subject: BA RTTY answers
Message-ID: <Pine.SUN.3.91.970114071050.11711B-100000@dot.w6bhz.calpoly.edu>

My thanks to you all who answered my querie on the above. Good news too! I found that same coil's make-break contact and engaged it. Reward with the sounds of the TT-4 motor's characteristing sound. Right now, my system is not hooked together so I'm not able to enable the keys to print anything on the printer (any ideas here?). But I did find that the built in lamp gave a beautiful yellow glow when reflected off the yellow printer paper through the acrylic plexiglas window of the unit. Truly BA'ish! Well, someone informed me of what it takes to put a military portable station together. Planning to use that as my next collection goal since pretty much my meagar Collins station is fairly complete. Thanks to you all who corresponded with me. I heartily appreciate your help. Cal, N6KYR. AM'er, CW op, and now Green Key Neophyte.

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: Ho4bart@aol.com
Subject: BC-312 trivia, minor item, moderate interest factor
Message-ID: <970113173148_1526504167@emout07.mail.aol.com>

in 1976 i spoke with mr. G&G of G&G radio in NYC
and asked him from where he had his BC-312s. He
sed he had bot a bunch from france, these were setup
as diversity receivers so he had to rewire up the local
oscillator. some years later i saw such an animal at a
hamfest: the nameplate replaced by one that said, if i
recall,   RECEPTEUR
                            BC-312
                 SOCIETE RADIO DE FRANCE

or something close. the set had been repainted, relettered.

next to one of the knobs were the words:
DIAL LINGHT
----
he also told me that the "Armored Car Radio --new, all crated"
SCR-584 / BC-1209   (that right?)   had mostly all gone to
mexico. how many of us today would spring at the chance today?

in 1972 i had actually ordered a bc-348 and a bc-312 from G&G.
i never heard back from them and never heard back from them,
but my check was never cashed, i had lots on my mind to attend
to otherwise, so i just let it go. and i blew some money on 2
arr-41's, partly "demilitarized", from another vendor, a real waste.
anyway, one year later i received to my surprise a reply from G&G,
asking did i still want to order these receivers. i declined. (another
mistake.)

this same G&G apparently practiced an early form of 'clip art' :
in G&G's last incarnation (ca. 1972-77 ???) he freely copied
photos & text from FAIR RADIO's catalog for use in his own.
no agreement, just treated the FAIR catalog like it was public
domain.   when i heard that the OM had passed away, i
tried calling the number to see what the disposition of the co.
might be. the phone rang for a month or two after his demise,
never an answer. i wonder if any of the material left ever made
it to the hamfest circuit, or if it all went to the orient to become
export cars, lawnmowers, etc.
hue miller

judge: "well, what are you charged with?"
defendant: "battery, your honor"
judge: "bailiff, escort this man to a dry cell!"

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: "Joseph W. Pinner" <kc5ijd@net-connect.net>
Subject: Re: BC-312 trivia, minor item, moderate interest factor
Message-ID: <199701141318.HAA14759@dns1.net-connect.net>

>in 1976 i spoke with mr. G&G of G&G radio in NYC
>and asked him from where he had his BC-312s. He

I remember G & G with great fondness. I ordered my first surplus stuff
for them back in the early 60s - a BC-604 and an RBA. Used to pour over
his catalog (as well as Fair's) for days on end. Still have a number of
tubes that I bought from him, though the two original purchases are long
gone.

73

Joseph W Pinner
Lafayette, LA
KC5IJD
EMail: kc5ijd@net-connect.net

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: Chuck Hallett W7LDS <liahona@execpc.com>
Subject: Blind BA enthusiast near Atlanta needs help HQ-120
Message-ID: <32DAECF6.4502@execpc.com>

I copied the following off rec.radio.amateur.boatanchors. I wouldn't normally repost, but in the off chance someone from the Atlanta region can give him a hand, it would certainly be something to feel doubly good about.
Tnx, Chuck W7LDS

Subject: have an old hammarlund hq 120
   Date: Mon, 13 Jan 1997 17:07:04 -0500
   From: Dana Yeomans <dana@keystone.intergate.net>

hi all have an old hammarlund hq120 that needs restoring, i am blind, and
know a little about this radio, if i can't get it working, i will sell it.
i live closed to atlanta, so if someone out there can help, e-mail me so
thanks from n4pge in griffin, georgia, and thanks for reading.

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: bharris@scs.philips.com (Brian Harris)
Subject: Collins Antenna Tuner
Message-ID: <2dbc0c50@scs.philips.com>

Please help me identify this tuner and the equipment set of which it was a part.

The Collins label says "Line Tuner". Its serial number is 411. Written in cursive on the bottom is: 3/3 set #590

The box is built similarly to AN/URC-32 or KWT-6 components but, having worked on those years ago in the Navy, I don't think it is a part of either. It has an unpainted aluminum case with a black painted front panel. The knob controlling the roller inductor is identical to those on a KWT-6.

The box is about 9 inches wide, 6 inches tall and 7 inches deep. It has two N-type female connectors on the back with a rectangular hole in the back panel between the connectors.

The front panel has four controls: The rotary inductor knob is labeled Loading Coil. There is a two position rotary switched labeled Antenna Impedance HI/LO. In the CAPACITANCE section, there is a knob is labeled VARIABLE and a three position rotary switch labeled 0, 500, 1000.

Anyone have any ideas or knowledge of this unit? Thanks for your time.

Brian Harris WA5UEK
bharris@scs.philips.com

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: Morris Odell <morriso@vifp.monash.edu.au>
Subject: Re: dark side of BAs
Message-ID: <32DADC81.5FBF@vifp.monash.edu.au>

Ahoy anchorites!

Thanks to all those that responded to my recent half-serious posting about the evils of restringing dials! There was some useful advice there and a lot of encouragement. My original post was prompted by one of those "you can fix my old radio can't you" requests accompanied by an entertainment type set that had been butchered by somone. Of course there was no diagram with it, and no idea of the length of cord required.

A couple of people suggested reaching for the bottle *before* rather than *after* the procedure, which was pretty sensible.

These were also a couple of suggestions regarding the use of hemostats (we call them artery forceps here) with which I am, of course, quite familiar. In fact there are a couple of useful techniques that can be borrowed from surgical practice, including "instrument ties" where you tie a knot by looping the cord around the instrument once or twice and then grasping the free end of cord with the instrument and pulling it through the loop. There's also the one handed knot tying trick which is easy to learn by imitation but not so easy to describe!

A few people described the use of specially made tools such as hooks and picks as well as the use of tape or beeswax to hold things in position. There was also the assurance that the set up may not have been correctly strung in the first place so you could presumably improve on it!

Hank produced his usual erudite and extremely informative posting. It's always a pleasure to read what he has to say on the subjects we discuss here - Thanks Hank.

I was also very pleased to read Hank's erudite posting on the subject of the professional vs the practical (or lack of same). I must confess to having mentioned this as "bait" for some sort of comment on this issue.

I was originally educated as an electrical engineer before I took up medicine and I have similar opinions to Hank on this subject. We were taught early on that there was much to be learnt form the "man on the shop floor" and this is a philosophy I have carried with me for a long time. It applies to discussions between doctors and nurses as well as between engineers and technicians.

I have met a lot of hams over the years, some better educated than me (in the schoolroom sense) and some not. There has always been worthwhile education IN BOTH DIRECTIONS from these contacts. If I didn't think fellow hams were worth talking to or didn't have respect for their opinions I wouldn't do it.

Anyway I won't go on further about this, I'm sure everyone who read the recent thread has his or her own opinion. I'd reather be talking about boatanchors.

73

Morris VK3DOC - In an Australian summer heatwave (36C today)

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---------------------------------------------------------------------
Morris Odell                 Victorian Institute of Forensic Medicine
Forensic Physician                  57-83 Kavanagh St, Southbank 3006
morriso@vifp.monash.edu.au                        Victoria,
Australia

Web page: http://www.vifp.monash.edu.au/CFM/staff/mo.html
---------------------------------------------------------------------
```

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: pmills@A.crl.com (Phil Mills)
Subject: Re: dark side of BAs
Message-ID: <199701140211.AA00520@A.crl.com>

Morris, thanks for having the sense to put some perspective in this.

> I was also very pleased to read Hank's erudite posting on the subject of
> the professional vs the practical (or lack of same). I must confess to
> having mentioned this as "bait" for some sort of comment on this issue.
>

Frankly, I had to bite my tongue on some of these undeserved comments between a couple of list members. <sigh> My practical expertise is in the computer industry and not the radio or electronic industry...

However, I am very pleased to read postings from our list members that can take opposing views without taking personal shots.

>From my perspective, a PHd doesn't necessarily mean you know anything...
and the fact that you have QTH with a large land area and assorted
antennas means about the same....

My opinion is that this list is for objective discussion of technical issues and if I say that "Morris is wrong!", it should _not_ be considered a personal insult....my statements should be evaluated on the merits and and nothing more.

thanks & 73,
Phil
.

Phil Mills, AB5TH   *****   *****
pmills@a.crl.com
281-992-5762 days
Friendswood, TX   (south of Houston)

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: gpewitt@execpc.com
Subject: RE: Error Condition Re: RE: Tek Scope Question(s)
Message-ID: <Chameleon.970113205502.gpewitt@execpc.com.execpc.com>

Buy a copy of Stan Griffiths book "Oscilloscopes Selecting
and Restoring a Classic" available from several sources
such as Electric Radio Magazine, Antique Electronics, and
from the author who is a valued list member.
It's a real gold mine on Tek scopes.
73 Gary

D. Ragsdale wrote:

>> Also, can anyone recommend any good references, other than

the
>manuals (have
>>a source for these locally, I believe) to help me along in
the
>fixing up?

Name: Gary Pewitt N9ZSV/KT
6120 W. Calumet Rd. Apt 204
Milwaukee, WI 53223
414 355 8147 Home 414 297 4307 Work
E-mail: gpewitt@execpc.com
From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: km1h@juno.com
Subject: Feb QST BA Ad
Message-ID: <19970114.094603.9887.1.km1h@juno.com>

Check out Toronto Surplus on Pgs 164-165 in the Feb 97 QST.
KWM2A's @ $295 and 30L1's @ $245 and up. Lots of newer stuff too.

73....Carl

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: the-radio-doctor@juno.com (Rob D Long)
Subject: FS:32V-3
Message-ID: <19970113.141557.9734.1.the-radio-doctor@juno.com>

Hello, due to a recent find I need to sell my 32V-3 to finance a new
acquisition.

Condition:

Works fine.
Original paint, small chips around mounting screws and edges of Face
All lettering intact on front and rear of cabinet
Terminal Strip cover present
Cabinet and Chassis Clean, No Dents, Rust, Etc....

Best offer on this fellow, Shipping will be a bear but i'll do it, Will
Also Drive Up to 200 Miles from Northern Wisconsin.

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: Mike Toneri <toneri@ils.net>
Subject: Re: Hallicrafter amp (NOT an HT-33!)

Message-ID: <199701140029.TAA07547@server1.ils.net>

>By the way my local expert is looking for anyone who has ever seen either of
>the Hallicrafters Complete station packages. The SR500 was the HT-30,
>SX100, and HT-31. The SR1000 was the HT32, HT33, and SX101 or SX115 later.
>I remember the SR500 pictured in QST about 1960
>at Police HQ in Ethiopia. Rundy K3/K4ZA (SK) actually used the station in
>one of his Dx trips (Rundy worked for Westrex).   Other than this one
>instance and beautiful pictures in the ad section of the ARRL handbook did
>these units every sell????
>
>Dave K4JRB
>

I beleive a friend of mine VE3IEO, Ian (also known as VA3IC) , gas bot an SR1000 and an SR500. Both are beautiful rigs. I have a very nice SX115 that works as good as the day it was made.
73...Mike VE3FGU

****
Mike & Lynda Toneri   E-mail: toneri@ils.net
****

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: DEE ALMQUIST <soundnmind@rica.net>
Subject: HAMMAR SP210 CONVERSION??
Message-ID: <19970114164341062.AAA606@har-dialin-12.rica.net>

Hi BA'ites
I recently came across an interesting conversion done on two Hammar SP210s. All tube lineup were changed to minitures. For example, V1-6BA6, V2-6BA6, V3-12AX7, and I beleave V4-12AX7 and so on including all IF, detection (product det) and audio single 6AQ5. The power supply is on same chassis where 6V6s used to be. What a performer!! Quite an improvement over orig setup. Then I ran across another SP210 that has the same conversion only this time only in the V1 thru V4, same tubes. Do any of you remember a published work in the distant past that had this conversion or is this just a coincidence? Any comments would be appreciated.
Dee, W4PNT

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Bob Roehrig <broehrig@admin.aurora.edu>

Subject: Re: HAMMAR SP210 CONVERSION??
Message-ID: <Pine.ULT.3.95.970114110442.21077B-100000@admin.aurora.edu>

On Tue, 14 Jan 1997, DEE ALMQUIST wrote:

> I recently came across an interesting conversion done on two Hammar SP210s.
> All tube lineup were changed to minitures. For example, V1-6BA6, V2-6BA6,
> V3-12AX7, and I beleave V4-12AX7 and so on including all IF, detection
> (product det) and audio single 6AQ5. The power supply is on same chassis
> where 6V6s used to be.

Interesting conversion. It would be nice not to have that monster separate supply, but I would also hate to lose that fine push-pull audio!
That was one of the best features of the set.

E-mail broehrig@admin.aurora.edu   73 de Bob, K9EUI
CIS: Data / Telecom   Aurora University, Aurora, IL
630-844-4898 Fax 630-844-5530

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>
Subject: Re: HAMMAR SP210 CONVERSION??
Message-ID: <199701141714.LAA29332@lesol1.dseg.ti.com>

At 10:47 AM 1/14/97 -0600, Dee Almquist wrote:
>Hi BA'ites
>I recently came across an interesting conversion done on two Hammar SP210s.
>All tube lineup were changed to minitures. For example, V1-6BA6, V2-6BA6,
>V3-12AX7, and I beleave V4-12AX7 and so on including all IF, detection
>(product det) and audio single 6AQ5.

I've got an SP210 similarly converted. The conversion was done so well that it appears to be professional! Alas, I have no documentation on it, but I too am impressed with the receiver's performance. Would love to get my hands on a schematic if anybody has one or knows where one can be located.

Regards,
Bill Sorsby, N5BU

****
bill.sorsby@dlep1.itg.ti.com
Views expressed herein are no one's fault but mine.
****

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From boatanchors@theporch.com  Tue Jan 14 00:14:03 1997
From: rhys@ix.netcom.com (Lawrence D. Walken)
Subject: Heath Manuals & ARRL Pubs
Message-ID: <199701140058.QAA22379@dfw-ix8.ix.netcom.com>

Hi Gang --

I found a few Heath manuals in the bottom of a box.  Let me know if you
need them.  I'd be glad to trade for Hallicrafters or National manuals
or a few bucks for postage:

     -- V-7A    VTVM
     -- HW-32A (20M)
     -- HW-12  (80M)  "Note: An Amateur Radio License (sic) that
                       provides General Class privileges is required to
                       operate this Transceiver on the air."
     -- How to Understand and Use Your Vacuum Tube Voltmeter (Heathkit
                      technical applications series)

I also have for sale other ARRL publications:

      -- The Antenna Book (1960 or 1970) $7.00 -- unchanged technology
      -- Learning the Radiotelegraph Code (1961)  $5.00  -- ditto
      -- FM and Repeaters (1972) $5.00
      -- The Radio Amateurs Operating Manual (1966)  $5.00

All prices quoted *INCLUDE* shipping (4th class)
All above publications are in fair to good shape


Larry Wolken N3OJD
(202) 291-9303


From boatanchors@theporch.com  Tue Jan 14 12:55:01 1997
From: Jeffrey Herman <jherman@hawaii.edu>
Subject: Help disposing equipment please
Message-ID: <97Jan13.214643hwt.188155(5)@uhunix3.its.Hawaii.Edu>

Please respond directly to the person below, not me!
Jeff KH2PZ / KH6 (back in Hawaii!)

>Need some help here. I am an Englishman and have the job of helping to
>sort out the estate of a friend of mine who has recently died. He lived
>CA/NV border.
>He had and I quote his wife " a room full of ham radio gear". Knowing him,
```

>it could be junk or, more probably, state of the art.
>Although I have no problems with the rest of his stuff -- I'm an antique
>dealer -- I have no clues as to value or how to sell of the radio
>equipment.
>Any of you guys want to get involved here. I'm not wishing to rip the last
>cent out of someone for the gear, just to get a fair price for his widow.
>
>Please e-mail me at   graham@ismacs.u-net-com   or graham@ismacs.net.
>
>I will be in the States sorting this out for five days from Jan 22.
>
>TIA
>
>GF

Again, I'm just the messenger...

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Bill Breshears <bbuck@cccbbs.com>
Subject: Hot Coax Relay Solenoid
Message-ID: <01BC01C5.D6E8D720@s10.cccbbs.com>

For years I had used open frame relays for rf until I put one in the line to remotely select either the antenna or a high power 50 ohm dummy load. On 28mc I traced a nagging vswr meter offset to the relay. (as covered elsewhere in Boatanchors). My swapmeet treasures included some 115 vac Dow coax relays which solved that problem.

Later, during dummy load tests requiring the coax relay to be energized for over an hour, I found the relay coil was very hot. It failed the "Can you hold it" hot test and was close
to the "Wet finger ssssss test". Tests with two other relays gave similar results. One coil failed open. Bad relay or bad application?

I solved my near term problem by adding a series dropping resistor with a value selected to give adequate pull-in and limit heating to "hold it" temperatures. About 80 volts ac on the coil.

My question is: Do they normally run that hot? Are these relays designed for continuos pulled in service? Is there a different way to use them? Is there a source of replacement coils?

Thanks, & 73

Bill Breshears WC3K   ex: W5VVP, VK8BJ, WA6ZEZ
bbuck@cccbbs.com   Bowie, MD
BOATANCHORS, Collected/Restored/Operated

WTB: JOHNSON gear, COLLINS: KWS-1,

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Bob Roehrig <broehrig@admin.aurora.edu>
Subject: Re: Hot Coax Relay Solenoid
Message-ID: <Pine.ULT.3.95.970114085237.9636B-100000@admin.aurora.edu>

On Tue, 14 Jan 1997, Bill Breshears wrote:

> My question is: Do they normally run that hot? Are these relays
> designed for continuos pulled in service? Is there a different way to
> use them?

Hi Bill & fellow relay clackers. Since the Dow-Key relays were intended for xmit/rcve operation (antenna changeover), I doubt they are rated to be powered up continuously. Your heat tests pretty much verify this. I would keep some resistance in series with it to prolong its life.

Many relays will operate reliably at lower voltages, and I usually find out what the minimum reliable pull-in voltage is and use that. Most of the relays I use are DC coil types. One way to operate them is to use an appropriate incandescent lamp in series. The cold resistance being lower, it goves the coil a higher initial shot of current to pull it in. Then as the lamp heats up, the current drops, but the relay stays operated at a lower current. You can also use a paralleled cap/resistor combination to do this.

E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI
CIS: Data / Telecom Aurora University, Aurora, IL
630-844-4898 Fax 630-844-5530

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: bdhall@ghg.net (Benjamin D. Hall)
Subject: Houston Vintage Radio Association Winter MEGA Auction
Message-ID: <32DAE08F.5C1@GHG.net>

Greetings Fellow Followers of the Fine Filament: Along with an auto insurance bill (boo!) the US Postal Service brought me an Announcement from the Houston Vintage Radio Association (yay!) about the 1997 Winter Mega Auction. I'm posting this to Ba in case any out of town listmembers will be in town/want to make the trip:

Verbatim from the announcement, my comments in []'s:

Schedule: Friday registration starts at 3pm, auction will begin at 7pm and end at 11pm. [don't bet on this time, lasted till 1pm last time] Saturday registration starts at 9am, auction will begin at noon and end at 5pm. If necessary, a Sunday afternoon auction will be convened at 2pm to sell unsold items from Saturday. The auctions will be held at The Tides II Hotel, Lai Lai Suite [actually, the resturant adjoining the hotel is the Lai Lai restuarant, go in thru the restuarant] at 6700 South Main Street in Houston, Texas. Call (713) 522-2811 for room reservations [based on the looks of the place I'd stay somewhere else personally] should you decide to stay overnight. The Tides II is located one block north of the Holcombe intersection, across from the Texas Medical Center. [if you need better directions, e-mail me and I'll whip out the Key Map]

Note that bidders must be members of the HVRA, and the membership fee is $15.00. You can buy a membership at the auction.

[it goes on to list some things for sale, I'll relate some of the things I find interesting or feel like writing, hi hi]

homebrew amp uses 199 tube, nib UX-199, Precision 612 tube tester, 15 Amp variac, Paco sig tracer, Paco and Heath Cap testers, Dynaco tube stereo stuff, Eico 325, "ham equipment" [and lots of other crap I'm too tired to write about. Anywho, usually most of the junque that I liked got auctioned Friday night (parts and scopes and VTVM's and AA5's etc), with the really expensive stuff getting saved for Saturday. I'll probably be there Friday night. Saw some BA's the last time, so the whole schebang might be worth a look-see if you live in Houston or nearby.]

I've got no connection to HVRA except they took my $15 membership and I gets there newsletters...

73,
Ben

```
--
----------------------------------------------------------------------
 From the computer of            | Collector of fine firebottle
 Benjamin D. Hall, Houston Texas | equipment, as well as other things
 BDHall@GHG.net (home) -or-      | involving Earth, Air, Water, and
 Benjamin.D.Hall1@JSC.NASA.gov   | Fire.
---------------------------------------------------------------------
***PLEASE NOTE MY NEW HOME E-MAIL ADDRESS above.***  My old address,
BDHALL@GHGCorp.com, will still work for a period of time however.
```

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: bdhall@ghg.net (Benjamin D. Hall)
Subject: Re: Houston Vintage Radio Association Winter MEGA Auction
Message-ID: <32DAEF3F.5865@GHG.net>

Phil Mills wrote:

> Ben, thanks for this posting...but please forgive for being stupid...which Friday?? There seems to be a Friday once a week....

ACK! You aren't stupid Phil, I'm the stupid one. Gosh, I cannt beleive I'm going to need three postings to get this right. Sheesh! Sorry Jack and the list, I'm usually not this bad, really, I'm not a moron, trust me! And no, I haven't been drinking either...

Dates for the MEGA-AUCTION: This weekend. January 17th and 18th, and the 19th if needed...

Okay, now I think I've got all the info correct and other there...

Thank and 73,
Ben

```
--
----------------------------------------------------------------------
 From the computer of            | Collector of fine firebottle
 Benjamin D. Hall, Houston Texas | equipment, as well as other things
 BDHall@GHG.net (home) -or-      | involving Earth, Air, Water, and
 Benjamin.D.Hall1@JSC.NASA.gov   | Fire.
---------------------------------------------------------------------
```

PLEASE NOTE MY NEW HOME E-MAIL ADDRESS above. My old address, BDHALL@GHGCorp.com, will still work for a period of time however.

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: bdhall@ghg.net (Benjamin D. Hall)
Subject: HVRA Mega-Auction correction
Message-ID: <32DAE138.66BD@GHG.net>

ooops, little note at the bottom states:

"The following half of both auctions will be devoted to selling high quality sets and materials. The second half will be devoted to parts, misc items, and "junque"."

So ferget what I said about the crap being auctioned off friday leaving

the good stuff for Saturday, like usual I'm a few cards short of a full
deck...

73,
Ben
--
```
----------------------------------------------------------------------
 From the computer of            | Collector of fine firebottle
 Benjamin D. Hall, Houston Texas | equipment, as well as other things
 BDHall@GHG.net (home) -or-      | involving Earth, Air, Water, and
 Benjamin.D.Hall1@JSC.NASA.gov   | Fire.
---------------------------------------------------------------------
```
PLEASE NOTE MY NEW HOME E-MAIL ADDRESS above. My old address,
BDHALL@GHGCorp.com, will still work for a period of time however.

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: wally@mindy.sys.sdl.usu.edu (Wally Gibbons)
Subject: I-177-B tube tester
Message-ID: <9701141605.AA06129@mindy.sys.sdl.usu.edu>

Hello to all from chilly Logan Utah.

I would like to correspond off line (private e-mail) with someone using a
 I-177-B tube tester successfully with a MX-949A/U test socket adapter.
My tube tester works great but not with the adapter.

Thanks

Wally Gibbons WB7ASQ
wally@mindy.sys.sdl.usu.edu
North Logan, UT

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: w2ec@VNET.IBM.COM
Subject: RE: KWM-2A's
Message-ID: <199701141621.KAA04792@uro.theporch.com>

>>Has everyone seen the Toronto Surplus and Scientific ad in the new QST?
>>KWM-2As + PM-2 PS for $295 + shipping.

>Word on the Collins reflector is that they all sold early in the day Monday.
>Darned, I didn't even get my QST until Tuesday! I never had a chance at it.
>;-(I guess USPS is as bad as the internet. ;-)

Yes, as per a phone call this morning, all KWM-2A's were sold very early yesterday (Monday). In the salemans words "I had no idea there was any interest in these anymore, I was afraid I might have trouble getting rid of them". He said he had over 100. He did have a few 30L-1's left this morning. These are with tubes, all the ones without tubes have been sold. He has one less now, it will hopefully be on its way to me shortly.

73, Ray   W2EC

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Spencer Petri <spetri@e-tex.com>
Subject: KWM-2As
Message-ID: <m0vk2QW-0000jSC@e-tex.com>

Hello gang,

Has everyone seen the Toronto Surplus and Scientific ad in the new QST?
KWM-2As + PM-2 PS for $295 + shipping. 416-490-8865

73 de Pete WA5JCI   "no connection to nothing"

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>
Subject: Re: KWM-2As
Message-ID: <199701141557.JAA19291@lesol1.dseg.ti.com>

At 12:42 AM 1/14/97 -0600, Spencer Petri wrote:

>Has everyone seen the Toronto Surplus and Scientific ad in the new QST?
>KWM-2As + PM-2 PS for $295 + shipping.

Word on the Collins reflector is that they all sold early in the day Monday. Darned, I didn't even get my QST until Tuesday! I never had a chance at it. ;-(I guess USPS is as bad as the internet. ;-)

Regards,
Bill Sorsby, N5BU

****
bill.sorsby@dlep1.itg.ti.com
Views expressed herein are no one's fault but mine.
****

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: "David L. Thompson" <thompson@mindspring.com>
Subject: Re: KWM-2As
Message-ID: <199701141804.NAA52882@mule1.mindspring.com>

At 10:02 AM 1/14/97 -0600, you wrote:
>At 12:42 AM 1/14/97 -0600, Spencer Petri wrote:
>
>>Has everyone seen the Toronto Surplus and Scientific ad in the new QST?
>>KWM-2As + PM-2 PS for $295 + shipping.
>
>Word on the Collins reflector is that they all sold early in the day Monday.
>Darned, I didn't even get my QST until Tuesday! I never had a chance at it.
>;-(I guess USPS is as bad as the internet. ;-)

First Class Delivery of QST is supposed to arrive between the 15th and the
20th each month for the next month.   Dealers like HRO are supposed to get
them several days before to allow the dealer to put them out. Seems certain
areas get them early.   Have not received my copy yet
(mine has been coming on the 15th or 16th).

Wonder how many KWM2A's they had....BTW prices in Antique Radio Classified
have gone out of sight!   KWM1 with AC/Dc excellent $1,500 and KWM1 good
$1,000.

73, Dave K4JRB
ARRL Assistant Director SE Division

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>
Subject: More Oklahoma BA adventures
Message-ID: <199701140136.TAA18811@dlep1.itg.ti.com>

At 09:15 PM 1/12/97 -0600, Ben Hall wrote:

>Ray Mack wrote a few weeks ago about a Western Union Telegraph Company
>microwave site with BA stuff free for the taking a few weeks ago. To be
>had were power supplies, racks, and all sorts of microwave junque.

Great trip! It was a distinct pleasure to participate in this adventure
with the good company of like spirited Anchorites. I can't thank Ray Mack
enough for making the opportunity available.

>Were pooped! The goodies: Ray, Guy, Bill and myself split up the

>racks, which are nice 7 foot jobbies with cool "MICROWAVE SEND CABINET -
>WESTERN UNION TELEGRAPH COMPANY - MADE BY RAYTHEON" nametags on them.
>Ray picked up a lot of microwave stuff, and everyone split up many
>different types of power supplies. Right now my car is being held
>safely to the ground by a pair of them.

Everyone that participated got plenty of stuff to make 'em happy. I needed racks badly for my ever growing collection of Super-Pro's, R390, R390A, etc. My BoatAnchors will soon be vertically integrated instead of sprawled horizontally. (Pardon the pun.) The assorted power supplies will come in handy sooner or later. An unexpected bonus included a few hard-to-find little items like knobs and connectors, such as several little metal knobs of the exact type used in the HRO-60. (Yes! My HRO-60 needed one.) Picked up a couple of needed knobs for my Eldico SSB twins. Also picked up a two-pin mic connector of the type used by Heath and Johnson as well as some blue-line connectors of the type used to connect a Tektronix 551 to its power supply.

The Raytheon nameplate on the racks seems strangely appropriate since Raytheon will be my new master when the deal to purchase the defense group of TI is completed.

>Anyways, was nice to help recycle more BA iron. Next time, I'm not
>doing in -20 below windchill OK weather, hi hi.

The willingness to work four or five hours in 15 degree weather (building was unheated) testifies of the devotion to this hobby folks have. Despite adverse conditions and a few problems along the way this weekend ranks as a high point among my BoatAnchoring experiences. Given the opportunity, I'd do it again (although my preference would be for warmer weather. ;-)

Regards,
Bill Sorsby, N5BU   bill.sorsby@dlep1.itg.ti.com
Grapevine, TX 76051

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: rsolomon@tsd.textron.com
Subject: NOS 8950, Amperite 115NO120
Message-ID: <9700148532.AA853265772@cctds.tsd.textron.com>

Subject says it. GE 8950 checks out 100% per TV-7/D and Dan Nelson info/adapters. Amperite never used. Best offer by Friday COB, will notify winner monday. 73, Dick.

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: "Morton L. Denison" <mdenison@postoffice.ptd.net>
Subject: R-725 - AN/TRD15 Manuals
Message-ID: <32DBD553.314A@postoffice.ptd.net>

Dave Metz kindly gave me information regarding documentation for the AN/TRD15 Direction Finder which used the R-725 receiver. I've got the R-390/R390A manuals for the R-725 receiver.

I'd like to get the manuals for the TRD15. There were two manuals: TM 11-5825-231-24 and TM 11-5825-231-25.

A check with NTIS produced the following information: The 11-5825-231-24 distribution is restricted to DOD agencies. The 11-5825-231-25 is obsolete and will not be reprinted.

Does anyone have a spare of either manual or could I pay someone for a copy? Perhaps someone's seen them listed elsewhere.

Any information appreciated.

Mort Denison

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: bdhall@ghg.net (Benjamin D. Hall)
Subject: Re: R-725 - AN/TRD15 Manuals
Message-ID: <32DBB354.494D@ghgcorp.com>

Morton L. Denison wrote:

> Dave Metz kindly gave me information regarding documentation for the AN/TRD15 Direction Finder which used the R-725 receiver. I've got the R-390/R390A manuals for the R-725 receiver.
>
> I'd like to get the manuals for the TRD15. There were two manuals: TM 11-5825-231-24 and TM 11-5825-231-25.

Hi Mort and List: If anyone does turn up these manuals, I'd be willing to pay photocopy/postage for copies of them.

BTW: Has anyone ever seen an AN/TRD15 direction finder? I've aquired one of those neat R-725's and I'd like to obtain the direction finder to go with it. I'd assume it is nothing more than just a very directive antenna (yagi maybe?) on some sort of degree-calibrated base? Would be fun to DF some of these numbers stations I'm always listening to. Perhaps a pair of them could be located, and another listmember who

likes number stations could obtain the second unit so we could DF some
of these number stations and triangulate their positions? Any leads
greatly appreciated!

Anyone ever homebrew a DF setup for boatanchors? Be curious to know
what your design was...

Thanks and 73,
Ben
--
Benjamin D. Hall, Houston Texas - Junque collector extraordinaire.
E-mail: BDHall@GHG.net (home) -or- Benjamin.D.Hall1@JSC.NASA.GOV
*** PLEASE NOTE NEW HOME E-MAIL ADDRESS SHOWN ABOVE. ***

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Tom Norris <badger@telalink.net>
Subject: Re: R-725 - AN/TRD15 Manuals
Message-ID: <2.2.32.19970114165815.0068d348@telalink.net>

>>Hi Mort and List: If anyone does turn up these manuals, I'd be willing
>>to pay photocopy/postage for copies of them.
>>

>So would I, says Tom....
>
>I have this dream of a remote location. Sort of far out in left field, and none
>too serious, but....
>
>There is a guy that has a Drake R-8 on a web page that can be tuned in real
time.
>Would be interesting to see what I might be able to draw up on hooking up an
>R-391 loaded with a few preselcted freqs, and remotely tuned via a web page,
>with the audio dumped into a realaudio server. Heck while I am dreaming, find
>a doppler DF unit that would interface with the whole mess, and give a readout
>on the web page. Hmmmm.
>
>Just a thought, not one I can seriously do, but a thought....
>
>
>73
>
>Tom Norris KA4RKT
>badger@telalink.net
>

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: bill@skeeter.frco.com (William Hawkins)
Subject: Re: R-725 - AN/TRD15 Manuals
Message-ID: <9701141833.AA12717@skeeter.bvc.frco.com>

Is it possible that this modification of an R-390A for direction finding was used in the FLR-9 that we discussed here a year (or so) ago - the one nicknamed the dinosaur pen? At the time, we heard about dozens of R-390A sets in a house at the center of a large circle of antennas. That might account for the classified status of the R-725 manuals.

Regards,
Bill Hawkins

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Randy Zelick <h2rz@odin.cc.pdx.edu>
Subject: Randy gets CR-88
Message-ID: <Pine.PTX.3.91.970113221456.13655B-100000@odin.cc.pdx.edu>

YES!

Well this is one happy camper. For once I was the first to the telephone! E.R. arrived today and there is this ad for AR-88s and CR-88s, $225.00. Boom - the wife and kids are eating dinner and I am upstairs on the phone. Not exactly the route to domestic bliss, but what the heck...

All 90 lbs should be on the way to Portland as soon as I can get the money order out. Shipping charges brutal, but I am promised a professional packing job at sellers expense.

Will give a report upon receipt -- from the positive opinions expressed over the months on this net I expect not to be disappointed.

Cheers,

=Randy=

R. Zelick
Dept. Biology
Portland State University
P.O. Box 751
Portland, OR 97207
503-725-3086, 503-725-3888 (fax)

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: Mike Toneri <toneri@ils.net>
Subject: Re: Ranger question/trouble ???
Message-ID: <199701140029.TAA07542@server1.ils.net>

>50 mills of idle current, and the plate current in general seems a
>bit high. Different finals and clamp tubes dont seen to make a
>difference. All the voltages seem to be in the ballpark. Is this
>normal for thsi rig???. Or have I missed something???
>

John the 50 ma. of current shown on the meter is the plate current through the series screen dropping resistor, drawn by the clamper tube. The high plate loading current may be due to trying to load into an impedance that the rig can not match or possibly a faulty switch wafer in the coarse plate loading switch. It's just a suggestion but i have heard of those switches causing problems.
73...Mike VE3FGU

****
Mike & Lynda Toneri   E-mail: toneri@ils.net
****

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: bill@skeeter.frco.com (William Hawkins)
Subject: Re: Tek Scope Question(s)
Message-ID: <9701140329.AA10075@skeeter.frco.com>

>From: "D. Ragsdale" <doragsda@polymail.cpunix.calpoly.edu>
>
>At a local electronics junk sale this weekend two old Tektronix scopes
>followed me home for the princely sum of $1.00 (one was 1.00, one was free).
>

Is there no end to the depravity of the BA market? 30MHz receivers go for four figures and the king of hollow state instruments (at 50 MHz) goes for $1 ??!!

To answer your question, though - the 535 is about a 15 MHz scope that was worth $100 a few years ago. The 544 is a 50 MHz scope, once worth about $150. So, the 544/1A1 combination is the 'best' scope. (This information is from Stan Griffiths' book, "Selecting and restoring a Classic." Stan is a BA list member.)

Stan's book will get you started. There are a few people here who will be willing to help bring them back to life. And there are some who would buy them in order to extract the tubes with the musician on the side (Amperex 6DJ8) and pitch the frame (not people on this list, I hope).

Regards,
Bill Hawkins bill@skeeter.frco.com

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: vancleef@netcom.com (Henry van Cleef)
Subject: Re: Tek Scope Question(s)
Message-ID: <199701140407.VAA11012@netcom17.netcom.com>

As D. Ragsdale discourses
>
> One is a 535A with a CA plugin and one is a 544 with a 1A1 plugin. The 535A
> looks to be in a little better shape (though they're both pretty nice) and I
> did get a trace on it when I plugged it in. The 544 doesn't have a power
> cord, so it's untested right now.
>
> Any recommendations on which one would be "best" (or easiest) to get in good
> shape to keep and use. Use would be basic BA test bench use, nothing
> exotic. I have an old RCA scope I'm using right now, but it's just not big
> and heavy enough :-).
>
> Also, can anyone recommend any good references, other than the manuals (have
> a source for these locally, I believe) to help me along in the fixing up?
>

Well, I'll jump in, as I am fairly familiar with both:

First, get a copy of Stan Griffith's fine little book "Oscilloscopes: Selecting and Restoring a Classic." There are thirty or forty plug-ins for these scopes, and listing all of them and what they are would be to redo what Stan has already done. Stan's address:

18955 S.W. Blanton, Aloha, Ore. 97007 Telno 503-649-0837. Stan's book covers scopes introduced 1947 (when Howard Vollum and Jack Murdock started Tektronix in the back of Jack's TV store) to about 1965. He has not yet published a reference for the later 7000-series and subsequent. Stan has forgotten more about Tek scopes than most others know (including yours truly, who had his hands on the 544 design in the early sixties).

Compared to the RCA service shop scopes of the early sixties, either scope is like comparing a P-51 airplane to a Cessna 172.

The two that you mention are, in my opinion, the top choices for a home service bench. Both are large, heavy, full of tubes, and draw lots of power (400 watts of the stuff, more or less).

To be specific, the 535A was introduced 1959, and produced into the 70's. You can tell a "later" scope by the silk-screened front panel rather than etched and filled. It features 15 Mhz. vertical amplifier bandpass and dual sweep generators.

The 544 is the final generation of scopes built on this mechanical platform, and is full of hybrid circuits. It has 50 Mhz. vertical bandpass (with the appropriate plug-ins), and has a single time base with up to X100 sweep expansion.

I use a 533A as my bench scope, which is 15 Mhz. with the single big-expansion sweep. This setup is ideal for most old radio and audio work. The 544, with its additional bandpass, does have some utility for making direct measurements at 10 and 6 meters, but most of my scope work tends to be within the 15 Mhz. boundary of the 530-series.

Either scope will operate with any letter-series plugin. Of the letter series, CA, K, G, and L are most comment, all with plenty of utility. To get the full bandpass of the 544 you need a "1A" plug-in. 1A1 and 1A2 dual-trace units are most common, and 1A4 4-trace is a good plugin to have. These units will work in the 535 as well---but with limited bandpass. The 1A plugins are hybrid, with only a few tubes, and much more stable than the old tube ones. However, they used nuvistors for much of their production life, and all I can say about nuvistors is "ugh!" Semiconductors are generally "obsolete" and "one-off," but tend to last forever, and all that I've had to replace have been easy to find replacements for, although not the same type.

Get copies of the original Tektronix manuals for these scopes from Deane Kidd, 27270 S.W. Ladd Hill Rd, Sherwood, Ore. 97140, telno 503-625-7363. Deane is **the** source for Tek documentation. Both scopes have thick books of documentation, and nobody on this list is going to copy the manuals for the price that Deane will sell you one. Also, he's got the right manual for your serial number. Since both scopes were built for into the seventies, there were plenty of changes, and the manuals Deane has also list later semiconductors by generic numbers in most cases.

Both scopes have 6CM vertical by 10CM horizontal displays and 10Kv acceleration----nice and bright. The 535A uses a conventional CRT with external graticule. The 544 uses a Faraday shield tube ("mesh"---which makes the CRT much more sensitive, but gives a bigger spot) with internal graticule. Replacement CRT's, if needed, are available from Fair Radio for reasonable prices. The display centimeters are really a centimeter, not quarter-inch "divisions" as became common on the later smaller scopes. The knobs are nice and big, and what's behind them are nice big Oak switches and Centralab pots. A little DeOxit brings them back to life.

Problem areas I can think of:

Loose hardware. Inspect very carefully, particularly the power supply and vertical amp chassis. It's amazing how Tek's #6 hardware manages to fall off and get caught in the wiring between ceramic strips.

Fan. The phono motors used in these boxes trash the thrust washer at the fan end. Take the motor out, get the fan off (usually, requires some careful tapping---they are always frozen on the shaft) and take the motor apart, noting the arrangment of the motor wires and bearing pillow block oil holes. I generally just clean up everything, and use alternating nylon and steel AN (aircraft) 1/4 inch washers, and some some lubriplate white grease on the washers. Fill to near-zero end play, and make sure the rotor is centered fore-and-aft in the stator.

High voltage power supply. Your scopes probably use disk ceramic caps, which are generally OK. 544-546-547 use a different HV transformer from other 530-40 series, and different voltage ratios, and are known to fail by heating up and leaking current after you turn the scope on. Stan's book lists a rewinder who will solve the problem. Worth doing if you have a good scope and have the problem (scope dims out after about five minutes). 5642 rectifier tubes are a pain, and give lots of trouble. The HV supply gathers dust and crud, and I always take off the covers and clean them thoroughly, using a Q-tip and household ammonia. Make up a shorting stick (test prod and 10K resistor) and use it before touching anything. Also clean up the "F & I" (focus and intensity) chassis on the left top, opposite the power supply. Stan's book gives a procedure for checking out an inoperative HV supply. Use it, it works. (I have some more methodologies, but start with what he describes).

One thing to remember is that low high voltage will give a display, but it will be much too big, and not focus properly. One diode out in the tripler will do this to you. Also remember that the CRT grid and cathode negative supplies are separate, and if the grid supply is inoperative, you'll really blast (and burn) the CRT screen.

Horizontal amplifier woes. The 544 X100 type in particular pushes the tubes and other components pretty hard. Use 1msec/CM rate, check that you can get the spot on screen (neon indicators both off). Check for elevated DC levels at the CRT plates---if one is zero, one side of the amp is dead. Also that the positioning pot, when centered, postions the trace at the left edge, not the center. Measure voltages across the plates after being sure that both are elevated (not open on one side).

Vertical amplifier woes. Generally "one side dead" problems. Sensitivity at the main amplifier input is 100 mv/cm, elevated 67 volts.

Power supply woes. Two things to remember about Tek power supplies: there are a lot of them, and they all put out plenty of current (an amp steady on the -150 and +100 supplies). Those are big beefy supplies that can kill if you get your fingers in the wrong place. The +100 supply provides the reference voltage for all the others. Make sure it is working before you try trouble-shooting anything else. Also the positive supplies are staircased----that is, the +225 supply is a 125 volt supply connected on top of the +100. Since the supplies all allow plenty of space for regulation, a dead supply may not lower the supplies above it by too much, because their regulators are wide open. I've had problems with tube socket contacts----some DeOxit fixes it. 1N4005 replaces any rectifier diode under the plastic cover.

Initial power-up.

This is tricky, because of the time delay relay and regulator setup. Start by making sure that the power fuse is the correct value. Don't over-fuse if it blows. Find the fault. Also, a lot of faults, such a short in one of the heater chains, won't reflect back enough draw to blow the fuse, but it sure will smoke a lot of harness wiring. Put your Variac away, and if you insist on using one, don't try running the thing on less than 100 volts.

My method is:

Hang meters across each of the heater chains. Plug the scope in, turn on, and watch all the meters jump up to 6.3 volts. If one doesn't jump up, find out why. I generally use "one-read-off", about five seconds max. Make sure the fan starts and the graticule lights light as well. Several of these five-second cycles will go a long way to reforming old filter caps. Tek scopes are chock full of FP caps, and unless you plan to spend six months bringing up your scope, just hit them with some short bursts of power.

Save your CRT. Astigmatism and intensity max counterclockwise, focus max clockwise. That way you should get no spot, and if a fault allows max beam current, the spot will be unfocused.

Now, hang meters on each of the five power supply test points. This is where "you can't have too many VTVM's" is true. Turn on the power.

You should see 40-70 volts on the +100 line, which is "tickler" power to the 75 volt heater line in the plug-in, provided by a bypass resistor in the +100 regulator. The time delay should cycle after 30-60 seconds, and the meters should ALL jump to life. My experience has been that this is the longest 30-60 seconds known to humanity. Be ready to shut the scope off at any time. Once again, more FP's are getting hit with power, and may be reforming. Even if all signs are good, watch the meters, and shut the scope off after about 30 seconds. If you get a spot on the CRT (you should not), power the scope down, unplug the CRT, and continue----you've probably got HV problems.

After allowing power to cycle a few short periods, let the scope run 3-5 minutes, then shut it down and make sure that not of the FP's are warm.

If you've gotten this far, power the scope up, and see if you can get a trace. Double check for main time base, auto sweep , midrange sweep speed, stability full clockwise, positioning pots centered. If you have problems, shut the scope off and check the setting of every front panel control. 99% of the "no trace" faults are pilot error----one or more controls not set properly. Advance the intensity to midrange, and you should get a line on the CRT.

This may sound, to the folks who proceed cautiously on first power-up of unknown equipment, like a brute force kill-or-cure method. If you want to use some other method, be my guest. But there is one thing I will emphasize: don't attempt to thwart the time delay setup, and don't try to run the scope on 50-70 volts. The time delay was put in there to assure that power supplies would be loaded when engergized, and to provide this loading, tube heaters have to have about 80-85% of rated voltage on them. Also, I mentioned that there is plenty of room for the series regulators, and a lot of those supplies will put out full voltage with as little as 75-80 volts on the input. As I recall, in the horizontal amplifier, there are tubes fed from the +500 supply, and 500 volts across a cold 6DJ8 isn't good for its health. I much prefer the "full bang" method.

So far as cap reforming goes, I've mentioned the "short burst of power" method, and don't leave a new (to me) scope powered up for more than 10-15 minutes until I've accumulated an hour or two or running time.

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Hank van Cleef
E-mail vancleef@netcom.com or vancleef@tmn.com
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From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: w7ni@teleport.com (Stan Griffiths)
Subject: Re: Tek Scope Question(s)
Message-ID: <199701141107.DAA26296@kim.teleport.com>

>At a local electronics junk sale this weekend two old Tektronix scopes
>followed me home for the princely sum of $1.00 (one was 1.00, one was free).
>
>Since I know next to nothing about these scopes, I have a couple of questions:
>
>One is a 535A with a CA plugin and one is a 544 with a 1A1 plugin. The 535A
>looks to be in a little better shape (though they're both pretty nice) and I
>did get a trace on it when I plugged it in. The 544 doesn't have a power
>cord, so it's untested right now.
>
>Any recommendations on which one would be "best" (or easiest) to get in good
>shape to keep and use. Use would be basic BA test bench use, nothing
>exotic.

Hi Dave,

Such a deal you got!! I like both of those scopes, but if I could only keep one, it would be the 544/1A1 because of its higher bandwidth (50 MHz vs 15 MHz for the 535A). You don't generally NEED 50 MHz, but it doesn't hurt to have it either.

I think Hank did an excellent job of describing the differences between them and how to bring them up safely. If you have any further questions about operating them or whether or not what you see is "normal", don't hesitate to ask. I have a 544/1A1 and a 535A/CA in my collection and I have seen lots of all of those models and know them pretty well. I have a lot of parts and pieces and plenty of free advice. (Actually, my Tek collection now numbers about 455 instruments . . . my 7-car garage runneth over . . . I hate to say this, but I have had a 507 in my van for two weeks since there is no place to put it in my shop and I have a perfectly good scope cart OUTSIDE with the paint peeling off of it.)

Stan w7ni@teleport.com

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: Cal Eustaquio N6KYR <ceustaqu@dot.w6bhz.calpoly.edu>
Subject: Thanks to the BA RTTY'er
Message-ID: <Pine.SUN.3.91.970113164132.11474B-100000@dot.w6bhz.calpoly.edu>

My general thanks to all to the BA net here on the RATT situation (military designation for RTTY). I want to keep you all posted on my upcoming project.

I am a member of the Society of Military Engineers, Cal Poly chapter, and I will be putting together a display (working?) of military communications contrasting the late 40's to 50's against today's equipment. Imagine an R-392, TT-4, and other equipment opposite military Pentium computers, SINGARS, and the like. It would make an interesting display! My ulterior motive, of course, is to put together my personal RTTY station together with an Army Signal Corps flavor. Cal, N6KYR.

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Jim Berry <basalop@eskimo.com>
Subject: Transformer needed
Message-ID: <32DB2631.5B2C@eskimo.com>

Hi Tube Fans,

I need a 12.5 vac 3.5 amp filament transformer for my TCS power supply. Anyone got one they would like to sell me?

73 Jim K7SLI (basalop@eskimo.com)

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: Mike Warren <71555.713@compuserve.com>
Subject: Tube pin resistance readings
Message-ID: <199701140741_MC2-E8E-D6AE@compuserve.com>

Hi John,

I gather that you are taking your resistance readings from the top of the chassis which leads me to believe that you have pulled the tubes.

Most (all?) published tube pin resistance readings I have come across are taken with the tube in the socket. There might be an internal connection in the tube connecting two pins together that could account for what you are seeing and that would explain why the listing shows a value for a pin that is not connected.

You might try measuring again with the tube in the socket and see what it shows.

Hope that's it and it's not a case of "phantom resistance"!

Good luck, Mike

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: vancleef@netcom.com (Henry van Cleef)
Subject: Re: Using Manual Resistance Charts.
Message-ID: <199701140603.XAA00164@netcom17.netcom.com>

As Allan Fritsche discourses

>
> I have been burned a few times using resistance charts and wasted many hours pursuing perceived problems in a set because of mistakes in the resistance charts. I have always wondered way a receiver manufacturer couldn't spend a little bit more time in getting it right or was it just not cost effective.
>
> Hank, you been around the horn in production. What say you or anyone else.
>
> Al

Al, I see someone taking my name in vain (again). I have my opinions and practices here, and they work for me. Others may feel differently. After all, you can read a lot about Variacs on this group, while I power up "unknown" stuff by plugging it in to the wall and turning it on----after a mechanical and electrical inspection.

I have found that virtually all of the Sams and Rider schematics, charts, etc. that I have worked with for various boxes have significant differences between the schematic and the box, and that some of the resistance and voltage measurements are wildly off what I predicted after analyzing the circuits and/or found in actual operation.

To keep things simple, let's consider a traditional AA5 setup, like the S-38.   Quick, off the top of your head, what's the voltage on pin 8 of the 35Z5, when things are OK. Around 130 volts DC, +/- maybe 5%. It doesn't matter what a published voltage chart says.

What's the resistance at the same point, with the set cold? Lessee, all the B+ plate circuits terminate at the plates, no bleeders there. All the screen circuits terminate at the screen. No bleeders there. So, "high to infinity" is the answer. Hang an ohmmeter on the 100K range there, watch the caps charge up, and see where it quits.

Indeed, my approach to B+ is to look for bleeders, hang an ohmmeter across the circuit, and if it doesn't head for infinity with lots of filter cap charging, find bleeders to disconnect, then start working up and down the circuit, disconnecting things until I get high resistance.

Example: The VHF-152A schematic shows no bleeders on B+. Snip-snip with the meter, and it wallows up to a couple of meghohms, with very little cap charging. The box I have is a VHF-152, not "A", so either there's gotta be a bleeder, or something is mighty sick. Disconnect the 150 volt feed, resistance goes to infinity, after the caps charge up. Whew! one more old FP that may return to service. Walk down the chain and discover 220K in series with 680K to ground, feeding the mixer (pentode in VHF-152, 1/2 6J6 in VHF-152A). That should be 900K, not 2 meg. Snip-snip probe the junction of these two. Still 2 meg, no difference. So we know we've got a 680K that isn't 680K. Disconnect it (it will have to be replaced) and verify that it is "open" (4 meg), which says that I've still got a bunch of leakage in the remaining B+ circuit. Back up to the B+ side of the 220K, read about 3.8 meg, so the leakage is on that side.

To cut through this, I disconnected to the point that I found two .001 postage stamp micas that were leaking like sieves on low voltage DC. Open them up, and the circuit goes to infinity.

What the voltage and resistance charts say, I'm not sure. I didn't look at them, but studied the circuit and worked out predicted values. If measurements aren't close to predicted (and let's remember than an AA5 was built with 20% resistors, so there's my tolerance), look for explanations.

This involves unsoldering, and if you take this approach in a B+ chain with a couple of bleeders, and every component is AOK, you are going to unsolder a couple of wires that didn't **need** to be unsoldered. But in the case of the VHF-152, each component unsoldered was one end of a defective component, and taking it out of the circuit allowed checking other components---which were also defective. That "B+ check" unearthed 4 bad .001 postage stamps (same brand and lot, and one or two defects commands 100% inspection). Two more .001 postage stamps were in cathode bypass circuits, which means unsoldering a low value resistor first.

This isn't the approach I would take with five or ten year old equipment. In that case, I would be looking for a single fault. With fifty year old boxes, I can't assume "single fault." As things stand, we are up to six postage stamp micas, one .01 paper sealed in a metal can, and two resistors whose value doesn't even vaguely resemble what's on the paint stripes----plus a "fix" that was supposed to compensate for one of those open resistors---but applied elsewhere in the circuit. That is a lot of troubleshooting that I am not going to have to do when I do power the box up. I don't know what effect a 3 meg. .001 cathode bypass cap with 1K across it has at 157 Mhz., but I am sure I could do a lot more wondering about strange performance if I didn't test and replace it.

If I do use a resistance chart (and HP test equipment tends to be dead accurate), I also take a look at the circuit and see where the resistances I am measuring are. That also means finding them physically in the unit and verifying that their stripes are right. Hullo, what's this. A 2200 ohm resistor is supposed to be here, but this one has three brown stripes on it (110 ohms). And yup. sure enough, my ohmmeter says it's 110 ohms. What's this resistor for? Decoupling for a 6SK7 screen, with a .01 to ground? 110 ohms and .01 won't decouple 10 meters, much less 445Khz. Out comes the soldering iron. The resistor is wide open, the cap is 110 ohms to ground. Reach into the convenient Mouser bags for a 2200 ohm resistor and another .01 cap (those vanish like M&M candies here), and fix the fault before I power it up and have to troubleshoot it. Of course, the old resistor had three reds on it, before the cap shorted, overheated the resistor (2200 ohms and 250 volts is a tad more than a half watt), turning the reds into browns.

Thinking about it, I think some of my methodologies---which are, granted, time consuming and not the approach a bench tech on the clock would (or should) take---come from my early years, when I specialized in "dogs"---sets that someone else looked at and couldn't (or didn't try to) fix. I remember a big fat Philco auto radio from the thirties---may have been out of a Packard Twelve---where the complaint was "no sensitivity." And boy, that set really didn't have any sensitivity at all----a crystal set was a DX champ compared to this thing. Lessee, 6D6 IF's. 3 volts initial bias on the cathode. Read 3.5. 100 volts on the screen. Read 120. AVC on the grid, read 400 mv., with a local station (all it would get) playing. These numbers sound "about right"---until you check the 250 ohm cathode resistor, find around 600 ohms, find the bypass cap wide open. It's been years so I don't recall all the details, but I think the set wanted new resistors and bypass caps in the RF, converter, and IF. It may have gotten new screen bypasses in the process. Turn it back on, turn up the volume, and it shortened the antenna six inches and spit the copper out the speaker----with very mushy audio. Replace the decoupling cap on the audio stage fixed that.

Checking voltage afterward, I had about 2.6 volts on that 6D6 cathode, 90 on the screen----and a solid -8 volts on the grid (AVC) on the same local station. Button it up, write up a ticket, and on to the next.

Problem with following troubleshooting guides and support data is that it assumes "single fault" and is drawn up by guesswork, not by field experience. Multiple faults---and that hamfest treasure is very likely to have them---require a different approach. Since I've given "before" and "after" you can see that the 30 extra volts on the screen were a tipoff that the 6D6 wasn't conducting at the proper point for

3.5 volts bias. But the red flag is the near-zero-signal AVC level, which says that the detector is sour, or nothing is being shipped to it. Low RF gain, with no distortion, points in the direction of "nothing is being shipped to it."

Ed Romney, in "Fixing Up those Nice Old Radios" points in this direction----yes, use the charts, but ask "what does this measurement mean?" and consider whether it would flag a fault condition very well.

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===================================================================
Hank van Cleef
E-mail vancleef@netcom.com or vancleef@tmn.com
===================================================================
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From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: "Paul F. Carreiro" <carreiro@barepower.net>
Subject: Re: Using Manual Resistance Charts.
Message-ID: <199701140815.AAA15646@current.barepower.net>

Hello fellow anchorists...
Regarding the use of Resistance Charts in equipment manuals:

One trick I've used when working on old iron is to make up my own resistance chart once I've got the rig operating in a satisfactory manner. I keep the chart in each radio's data file. If and when something goes wrong with the radio at a later date, I can quickly get a fairly good reading on what has changed from a known _working_ condition for that specific rig. In addition to tube pin resistances, I include other strategic points within the circuit to aide in troubleshooting later.

The manual resistance charts are a starting point.. but not the ending point. Components change characteristics with time, and each radio has it's own distinct resistance profile. Capturing that profile makes a lot of sense to me, and has saved a lot of time troubleshooting in the past. I also see it as a positive selling point for a radio. Full documentation, above and beyond what the manufacturer provided, specifically for a radio makes all the difference when I buy and sell iron.

Hope this helps.
73.. keep the bottle flames lit.
Paul N6EV
  Paul F. Carreiro - N6EV - ex-N6HCS - El Camino Village, CA
  E-Mail: carreiro@barepower.net - http://www.barepower.net/~carreiro/
  QRP - Boatanchors - Mobile CW - QRQ +40WPM

NorCal QRP #367 - QRP QRCI #8885 - CW FISTS #1407 - QRP-L #236
Zuni Loop Mountain Expeditionary Force (QRP Field Day)

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: "Roberta J. Barmore" <rbarmore@indy.net>
Subject: Re: Using Manual Resistance Charts.
Message-ID: <Pine.SUN.3.91.970114085955.10329A-100000@indy1>

Hi, all!

Hank's comments about shooting trouble in very old comms gear are right on the mark!

In many cases, I paint with an even broader brush. *Most* of the gear we work on (leaving out the more-estoteric Collins, R-390s and kin by *anybody,* and a ferw other cases) really doesn't have all that many passive components. In rebuilding the HRO-5, I just shotgunned *all* the paper and 'lytic condensers, then got out the ohmmeter and looked at all the mica caps & resistors, replacing any that were out of spec (lifting leads as needed). It took a few weeks of evenings, but the set worked fine and required -zero- trouble-shooting, just alignment. It is a bit brutal, but it's effective.

A slightly more elegant method is to get the meter out first. But I have seen far more dead paper condensers than live ones--and as nice rolled-mylar ones that look very much like real olde-tyme papers are locally available, I feel little compunction about wholesale replacemement.

The catch to "shotgunning" is that you do have to watch circuit details, or you'll be carefully re-installing a old nitwit "fix" that wasn't. Some mods can be very unobtrusive (witness the recent ARC-5 thread) and will lead to a world of trouble if not rooted out.

The difference in appraoch between Hank and I probably comes from our backgrounds--he started out fixing the hard cases, while the gear I get paid to fix usually has to be got running *now* and $79.42 in parts is nothing to the cost of not having it in operation. So my methods lean to the fast and drastic.

But even that won't dodge the need to look at the prints, compare 'em to the Actual Device, make "reasonable assumptions" about what to expect on the meter or 'scope and then reality-test them. Still, in a world only accurate to three digits (on *good* days!), even crude models usually give workable results. Troubleshooting isn't design and 99% of it can be done without even knowing who Maxwell was. (Don't look at me, there's rosin flux under my nails and my maths stop a few steps into algebra).

...And the parenthetical comment above leads me to the topic of "engineer-bashing."

In my (brief) stint as a factory tech, I learned a deep skepticism about Real Engineers; Ft. Wayne Engineering Group would come down from on high, and hand us poor slobs in Test Maintenance the de-damnedest junk you ever saw, with hand-scribbled diagrams and a deep disdain for dirty-hands lowlives such as us. The classic example was a production test set built in a minibox with removeable plates on each end, wires and/or sockets, indicators, or switches on *all* faces of the box, and a two-wire line cord with the fuse in one side of the line and the power switch in the other! It was *nasty,* and looked even worse than it sounds.

But I also learned respect: that ugly, unsafe box of horrors measured the source impedance of a particular active component and categorized it into four ranges, to be matched with another part, did it with *very* few parts and none of 'em expensive, and did so in such a manner that *any* production person could operate it with five minutes instruction!

So my gang of Test Maintenance techs took the thing, fixed the safety/access problems, turned out a half-dozen more, and solved a hugely expensive problem. Engineering retired to the cloisters, covered in glory.

Moral? Several. Most germane, "The eagle doesn't walk well." While the Real Engineer had done a laughable job with construction and safety, he'd also *identified* a baffling problem and built a gadget to fix it that *nobody* in Test Maintenance could have designed. Many engineers *are* good techs, but it isn't a job requirement. Some techs can do quite a bit of engineering--but that's not a job requirement, either!

As for higher math, reference books, etc., you don't need much of either to be a tech but it sure helps. For Actual Electronic Engineering, those things are often more useful than a soldering iron. The books don't have all the answers but they sure do provide a good *starting* point. And mathematics is the "power tool" of electronics work--you can do a lot of work with a hand saw but the right *power* saw makes it a lot easier! The extent to which each of us approaches the hobby as tech or engineer depends largely on inclination and background, and is a matter of personal preference; it's not worth getting all het up over.

And now I'll shut up.

73,
--Bobbi

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: "Freeberg, Scott (STP)" <qc01870@stp03.guidant.com>
Subject: Wanted: Johnson Viking Valiant
Message-ID: <199701141510.JAA02877@uro.theporch.com>

Wanted:
1.   Johnson Viking Valiant transmitter. Prefer good shape and
functional. I want to put this on the air regularly.
2. Dow Key antenna relay with 110 vac coil and external muting contacts.

I sure enjoy the BA cw contacts on 3.579 Mhz.

Thanks.

Scott WA9WFA, St. Paul Mn.

Work phone: 612-582-4057
Home phone: 612-653-2054
email: scott.freeberg@guidant.com

From boatanchors@theporch.com Tue Jan 14 12:55:01 1997
From: DEE ALMQUIST <soundnmind@rica.net>
Subject: WT HQ145C MANUAL
Message-ID: <19970114164805781.AAA348@har-dialin-12.rica.net>

Hi Folks

I found the HQ145A manual I have is not the same as the "C" radio. Quite a
differance is FE coil arrangement. Does any one have a copy of the "C"
manual they would sell?
Thanks
Dee, W4PNT

PATTY AND DEE'S MARINA, COLLECTORS OF BOATANCHORS AND TUBES, ETC.

From boatanchors@theporch.com Tue Jan 14 00:14:03 1997
From: "Walter L. Marshall" <wmarshal@CapAccess.org>
Subject: WTB National SW-3
Message-ID: <Pine.SUN.3.91-FP.970113234414.28449A-100000@cap1.capaccess.org>

Dear Anchorists,
Have been recieving feedback (much appreciated) on the
R51J-4. Will decide who gets it tomorrow night.
I haven't shaken loose a SW-3 yet. Should be one out
there with my name on it. What do you think? How much
would one expect to pay for it?
Having fun,
Walter Marshall, a.k.a. Woodchuck